OFFICIAL

tesa 719-KGB
3162-Stier

9/B
1-17-03
P Fennie

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS	:	PETER GLEICHENHAGEN ET AL.
SERIAL NO.	:	09/814,625
FILED	:	March 22, 2001
FOR	:	PREPARATION OF ACRYLIC HOT-MELT PRESSURE-SENSITIVE ADHESIVES FROM AQUEOUS DISPERSIONS
ART UNIT	:	1713
EXAMINER	:	M. Reddick

January 6, 2003

Hon. Commissioner of Patents
Washington, D.C. 20231

AMENDMENT UNDER 37 CFR § 1.111

SIR:

In response to the Office Action dated September 4, 2002, please amend the above-identified application as follows:

IN THE CLAIMS:

Cancel all of the claims in the application and substitute the following new claims:

B1

–12. A process for preparing a hot-melt pressure sensitive adhesive comprising polymerizing polyacrylate precursor monomers in aqueous dispersion to yield a concentrated

aqueous dispersion comprising between 68-87% by weight of the concentrated aqueous dispersion of gel-free, molecularly-dispersed, meltable polyacrylate particles having an at least bimodal size distribution in size ranges between 0.5 µm and 1000 µm Ø.--

--13. The process according to claim 12, wherein the monomers are 60-99.5% by weight based on the total weight of one or more monomers of (meth)acrylic esters with C4-C12 ester radicals alone or in admixture with 0-10% by weight based on the total weight of one or more monomers of (meth)acrylic acid or methacrylamide, and up to 40% by weight based on the total weight of one or more hardening monomers.--

B1 Cont

--14. The process according to claim 13, wherein the one or more hardening monomers are selected from the group consisting of (meth)acrylic C1-C3 esters, vinyl C1-C3 esters, styrene and other copolymerizable monomers having functional groups of thermal stability sufficient to survive the process.--

--15. The process according to claim 12, wherein the polymerizing polyacrylate precursor monomers in aqueous dispersion is conducted in the presence of one or more stabilizers present in said aqueous dispersion in a concentration of up to 4% by weight based on the total weight of the aqueous dispersion, and the one or more stabilizers are selected from the group consisting of water-soluble substances which are stable at a melting temperature of the polyacrylate and nonionic and anionic low-foam emulsifiers.--

--16. The process according to claim 15, wherein the water-soluble substances which are stable at a melting temperature of the polyacrylate are selected from the group consisting of short-chain polymers which carry amide groups.--

--17. The process according to claim 12, wherein the polymerizing polyacrylate precursor monomers in aqueous dispersion is conducted in the presence of one or more polyacrylate chain-length-regulating substances present in amounts of up to 10% by weight based on the weight of the polyacrylate.--

B1 Cont

--18. The process according to claim 17, wherein the one or more polyacrylate chain-length-regulating substances are selected from the group consisting of vinyl ethers, fumaric esters, maleic esters, styrene and hydrophilic rosins.--

--19. The process according to claim 12, wherein the polymerizing polyacrylate precursor monomers in aqueous dispersion is conducted in the presence of one or more linearly polymerizing, water-insoluble initiators which are soluble in the monomers in amounts of up to 1% by weight based on the weight of the monomers.--

--20. The process according to claim 19, wherein the initiators are azo initiators.--

--21. The process according to claim 12, wherein the polyacrylate is soluble without gel in an organic solvent and has a relative viscosity at 25°C in toluene of 1680-5000 and a melting range between 80°C and 170°C.--

--22. The process according to claim 12, which further comprises a) dewatering the concentrated aqueous dispersion to form a homogeneous, molecularly-disperse polyacrylate melt, and b) filming the homogeneous, molecularly-disperse polyacrylate melt to form a film by pressing the homogeneous, molecularly-disperse polyacrylate melt through a slot die.--

--23. The process according to claim 22, which further comprises a) dewatering the concentrated aqueous dispersion in a kneading device or extruder having a devolatizing means operating at a temperature between 90-160°C to form a homogeneous, molecularly-disperse polyacrylate melt, or b) filming the homogeneous, molecularly-disperse polyacrylate melt to form a film by pressing the homogeneous, molecularly-disperse polyacrylate melt through a slot die by means of toothed wheel pumps and/or extruder screws.--

--24. The process according to claim 22, wherein prior to dewatering, one or more natural rubber lattices or synthetic rubber lattices are added to the concentrated aqueous dispersion in amounts up to 70% by weight based on the polyacrylate, and/or before or after the dewatering, one or more inorganic fillers are added to the concentrated aqueous dispersion in

amounts up to 40% by weight based on the polyacrylate and/or one or more polyacrylate-compatible plasticizers are added to the concentrated aqueous dispersion in amounts up to 30% by weight based on the polyacrylate.--

--25. The process according to claim 22, wherein after dewatering, one or more tackifier resins are added to the concentrated aqueous dispersion in amounts up to 50% by weight based on overall polymer or up to 35% by weight based on the polyacrylate.--

B1 Cont.

--26. The process according to claim 25, wherein the one or more tackifier resins are selected from the group consisting of hydrocarbons having aromatic fractions.--

--27. The process according to claim 22, wherein after dewatering, one or more UV photoinitiators are added to the concentrated aqueous dispersion and/or incorporated into the polyacrylate by copolymerization in amounts of up to 2% by weight of the polyacrylate, and/or one or more polyunsaturated (meth)acrylic monomers are incorporated into the polyacrylate by copolymerization in amounts up to 5% by weight of the polyacrylate, and the film is crosslinked by subjecting the film to 2-10 J/cm^2 UV radiation and/or 10-100 kGy electron beams to yield an insoluble of up to 95% by weight acrylic polymer.--

--28. The product produced by the process of claim 12.--

--29. An adhesive tape comprising a backing and the product according to claim 28 coated on one or both sides of said backing.--

--30. A method of producing an adhesive tape according to claim 29 comprising:

B1
Cont

a) producing a hot-melt pressure sensitive adhesive according to the process of claim 12; and

b) coating a backing on one or both sides thereof with said hot-melt pressure sensitive adhesive.--

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.